

I claim:

1. A method of acquiring data correlated with three-dimensional geometric features or location of a subject, comprising the step of passively acquiring the data by comparing changes in the size of the subject relative to changes in the size of features of a foreground through which the background is viewed as an optical path length between the foreground and an image plane is varied.

2. A method of acquiring data correlated with three-dimensional geometric features or location of a subject, comprising the steps of:
 - a. capturing a composite image of a background object and a foreground pattern at a first distance from an image plane;
 - b. capturing a composite image of the background and foreground in which the foreground pattern is situated at a second distance from an image plane;
 - c. comparing the relative sizes of features of the background object and the foreground pattern in the two composite images relative to a fixed set of coordinates.

3. A method as claimed in claim 2, wherein steps a and b are performed simultaneously.
4. A method as claimed in claim 2, wherein the foreground pattern is a grid.
5. A system for acquiring data correlated with three-dimensional geometric features or location of a subject, comprising a camera arranged to capture two composite images of a background object through a foreground pattern at different focal lengths, and means for comparing the two composite images in order to determine the amount by which dimensions of the background change relative to dimensions of the foreground image as the focal length is changed.
6. A system as claimed in claim 5, wherein said camera includes two said foreground patterns, and two receivers for simultaneously capturing said composite images through the two respective foreground patterns.
7. A system as claimed in claim 6, wherein said foreground patterns are grids.
8. A system as claimed in claim 6, wherein said camera further includes at least one beam splitter for

splitting an image of the background object and directing the image to separate optical paths through the respective foreground patterns.

9. A system as claimed in claim 8, wherein at least one of said foreground patterns is situated on said beam splitter.
10. A system as claimed in claim 9, wherein said one of said foreground patterns is a grid etched into said beam splitter.
11. A system as claimed in claim 10, further comprising a mirror having an adjustable angle for directing a composite background/foreground image at said second receiver.
12. A system as claimed in claim 10, wherein a second of said foreground patterns is a grid etched into said mirror.
13. A system as claimed in claim 8, wherein at least one of said foreground patterns is situated between said at least one beam splitter and a corresponding said receiver.

14. A system as claimed in claim 13, wherein a second of said foreground patterns is situated between said at least one beam splitter and a corresponding second one of said receivers.
15. A system as claimed in claim 8, wherein a number of said beam splitters is at least two, and a number of said receivers is at least three.
16. A system as claimed in claim 15, wherein a number of said foreground patterns is at least three.
17. A system as claimed in claim 16, wherein said foreground patterns are grids.
18. A system as claimed in claim 8, further comprising at least one second beam splitter and at least one third receiver arranged to capture a composite image of the background image and a foreground pattern at selected wavelengths that differ from a set of wavelengths to which said first and second receivers are responsive.
19. A system as claimed in claim 18, wherein said selected wavelengths are infrared wavelengths.

20. A system as claimed in claim 19, further comprising a second infrared beam splitter and receiver.

21. A mirror construction, comprising:

a mirror surface having a reflective pattern formed thereon, wherein the pattern reflects a different set of frequencies than portions of the mirror surface that do not have the pattern formed thereon.

22. A mirror construction as claimed in claim 21, wherein the pattern is a grid.